

REMARKS

By this Amendment, the specification is amended, claims 1, 3 and 5 are amended and new claims 21 and 22 are added. Accordingly, claims 1-22 are pending in this application. No new matter is presented in this Amendment.

The courtesies extended to Applicant's representative by Examiner Heinz during the telephone interview held May 11, 2005 and subsequent telephone conversation on May 12, 2005, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the telephone interview.

The Office Action objects to the title as not being descriptive. Applicants respectfully submit that the objection is obviated by replacing the title with a new title that is clearly indicative of the invention to which the claims are directed, specifically, a "MAGNETO-RESISTIVE DEVICE WITH REDUCED SUSCEPTIBILITY TO ION BEAM DAMAGE." Accordingly, withdrawal of the objection to the title is respectfully requested.

The Office Action objects to the presentation of the claims under 37 CFR 1.75(g) as not grouping all dependent claims together with the claim or claims from which they depend. Applicants respectfully request to defer canceling and adding new claims solely to reorganize the claim structure until such time as a Notice of Allowance is issued.

The Office Action rejects claims 5-7 and 17-18 under 35 U.S.C. §112, second paragraph, asserting that the phrase "said predetermined material" in claims 6-7 lacks clear antecedent basis. The Office Action states that "identification of the material used in the two different layers of the composite layer is confusing." Applicants respectfully disagree.

The claims do not recite two different layers of different materials. Claim 5 specifically recites at least one layer is made of a predetermined material. Claims 6 and 7 further identify the predetermined material recited in claim 5. Applicants respectfully submit

that clear antecedent basis for the term "said predetermined material" is provided in claim 5. Withdrawal of the rejection is respectfully requested.

The Office Action rejects claims 1-20 under 35 U.S.C. §102(e) over U.S. Patent No. 6,353,318 to Sin et al. This rejection is respectfully traversed.

Independent claim 1 recites a magneto-resistive device comprising a single-layer film in contact with an effective region on at least one side of the effective region and the at least one side of the effective region excludes a layer for applying the biasing magnetic field to the free layer. Sin does not disclose these features.

Although Sin discloses, in Fig. 2, an insulating layer 130 and a seed layer 142 located on the side of layers 112, 114, 116 and 118 (the effective region), the permanent magnet layer 146 constituting the hard bias layer 140 is not excluded from the side of the effective region in contact with the insulating layer. Based upon Fig. 2 of Sin, the side of the effective region recited in claim 1 corresponds to a side in a direction perpendicular to the sheet of Fig. 2 (Z-axis), and Applicants respectfully submit that Sin fails to disclose a single film layer in contact with the effective region along such a perpendicular axis.

Independent claim 1 further recites a single-layer film formed to be in contact with an effective region without overlapping the effective region. Sin also does not disclose this feature.

Applicants submit that Sin discloses the insulating layer 130 and seed layer 142 formed only in a region in which the layers 130 and 142 overlap with the permanent magnet layer 146 due to the lift-off shown in Figs. 5, 6a, 6b, 7 and 8. Thus, the insulating layer 130 and seed layer 142 are not formed to be in contact with the effective region without overlapping the effective region, as recited in claim 1.

Thus, because Sin does not disclose, teach or suggest each and every feature recited in claim 1, the rejection of claim 1 under 35 U.S.C. §102(e) is improper. Applicants respectfully submit, therefore, that independent claim 1 is patentable over Sin.

Independent claims 3 and 5 are similar to claim 1. Rather than a single-layer film as recited in claim 1, however, claims 3 and 5 recite a composite-layer film in contact with an effective region on at least one side of said effective region, the effective region excluding a biasing layer from the side of the composite- film. Based upon the foregoing arguments regarding claim 1, Applicants respectfully submit that Sin fails to disclose such features and therefore, independent claims 3 and 5 are patentable over Sin.

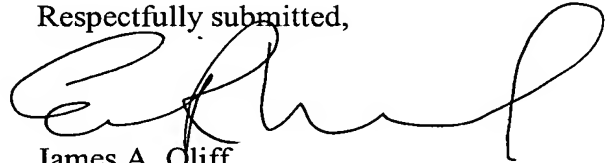
Claims 2, 4, 6-20 depend from independent claims 1, 3 and 5 and are likewise patentable over Sin at least for their dependency, as well as for additional features they recite. In particular, although Sin arguably discloses an insulating layer and a seed layer on sides of an effective region, Sin does not disclose, teach or suggest a single-film layer on a side opposite to a magnetic recording medium, as recited in claim 12. Withdrawal of the rejection of claims 1-20 over Sin is respectfully requested.

New claims 21 and 22 are likewise patentable at least for their dependency on independent claims 3 and 5, respectively, as well as for the additional features they recite. In particular, Sin does not disclose a composite-layer film in contact with the effective region on at least one side of the effective region opposite to a magnetic recording medium.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-22 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Enclosures:

Petition for Extension of Time
Amendment Transmittal

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